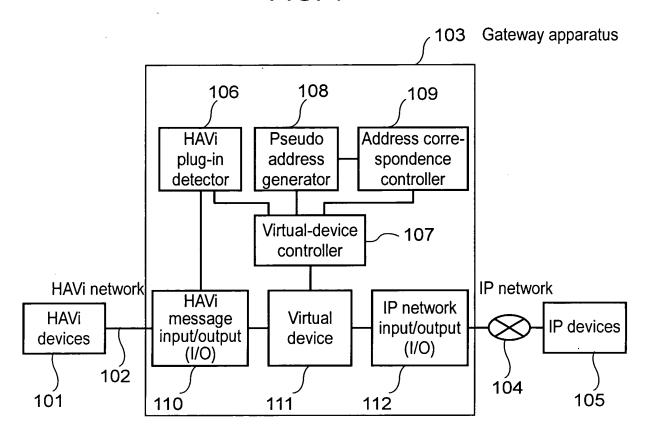
FIG. 1



Connection controller

Command correspondence controller

Address converter

FIG. 2

201 Virtual device

Command converter

203

Command converter

204

Interface to IP message I/O

Address converter

Interface to HAVI message I/O

207

FIG. 3

301 302	303
EUI64 GUID (64bit)	SW-Handle(16bit)

FIG. 4

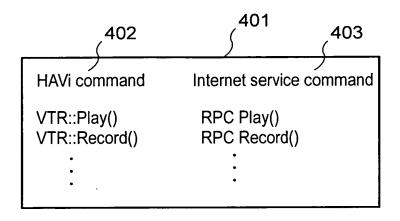


FIG. 5

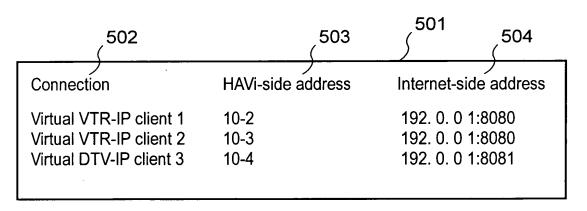


FIG. 6

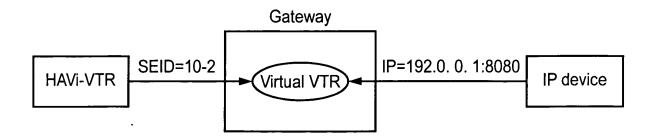


FIG. 7 Start 701 **Detect events** 702 Search HAVi registry 703 Obtain device-info. 704 Virtual device wait 705 Generate IP-ID 706 Register address correspondence Wait 707 Connect-request waiting Connect-request 708 Message transfer

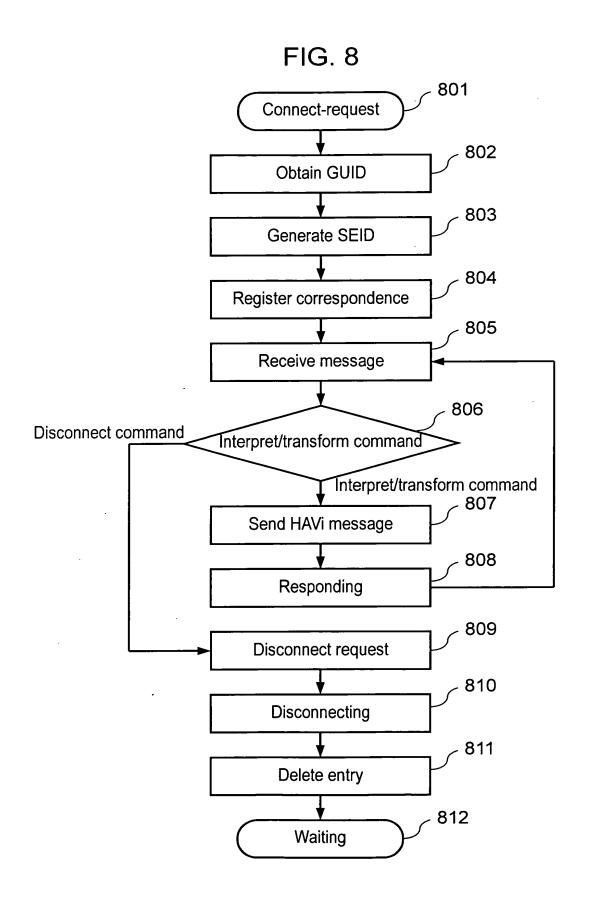


FIG. 9

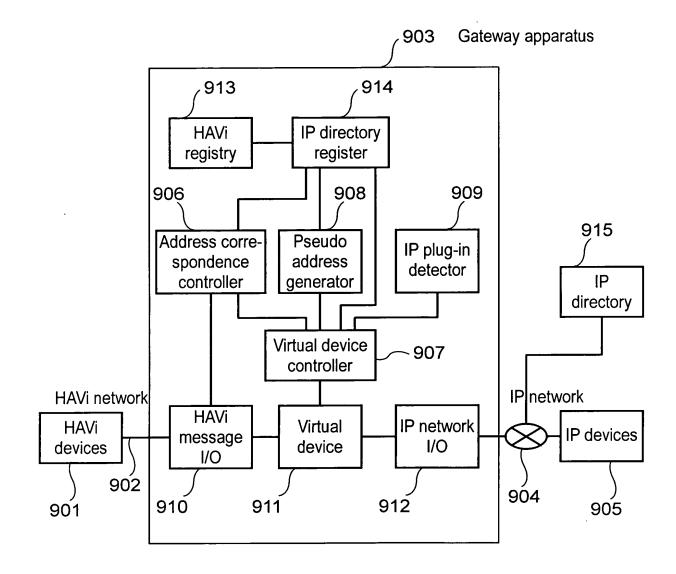


FIG. 10

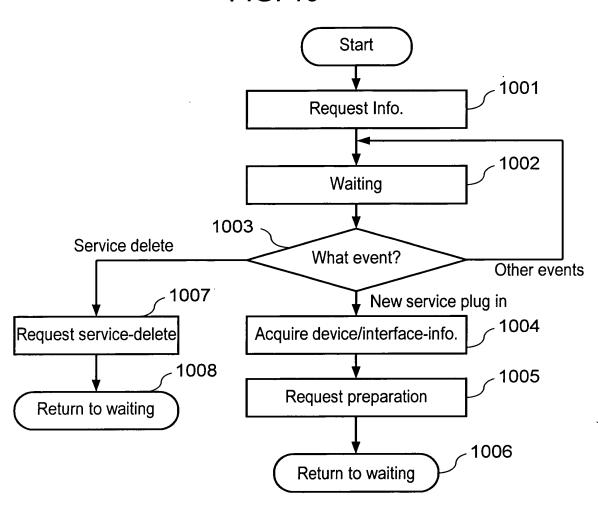


FIG. 11B FIG. 11A 1108 1101 IP device delete IP device plug-in 1109 1102 Search service Prepare virtual device correspondence table 1103 1110 Generate HAVi address Service plug-in? End No 1104 Register HAVi address Yes 1111 Delete address 1105 correspondence entry Broadcast plug-in event 1112 1106 Delete address Virtual device waiting HAVi-registry entry 1113 1107 END plug-in Stop virtual device 1114 Broadcast IP device delete 1115 Stop virtual device 1116 **END**

FIG. 12

Connection	HAVi-side address	Internet-side address
HAVi client-Virtual printer	10-5	192. 0. 0 1

FIG. 13

Service	HAVi HUID	Internet service ID
IP network printer	10-5	12E83420A
		·

FIG. 14

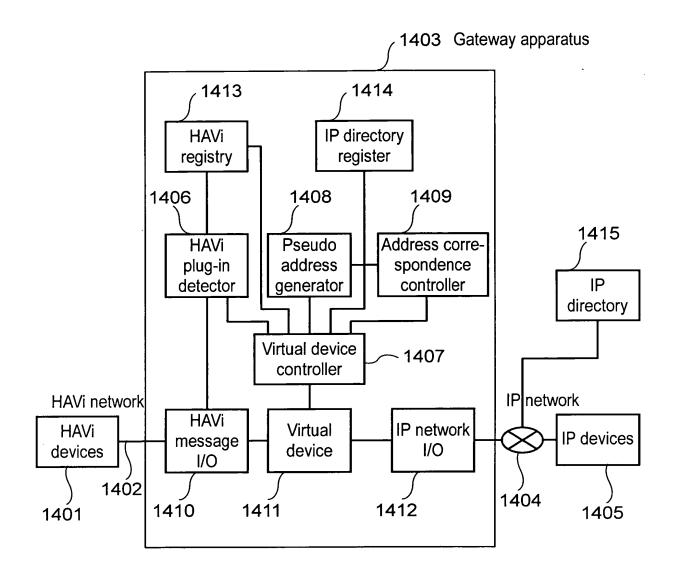


FIG. 15

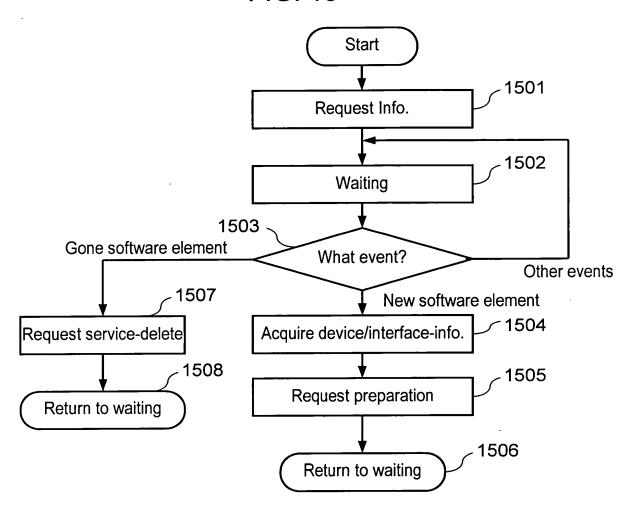


FIG. 16B FIG. 16A 1608 1601 HAVi device delete IP device plug-in 1609 1602 Acquire GUID Prepare virtual device 1610 1603 Search service Assign IP address/port correspondence table 1604 1611 Generate IP interface-info. Service plug-in? End No 1605 Register IP interface-info. Yes 1612 Delete service 1606 correspondence entry Virtual device waiting 1613 1607 Delete address END plug-in correspondence entry 1614 Inform IP directory 1615 Stop virtual device 1616 **END**

FIG. 17

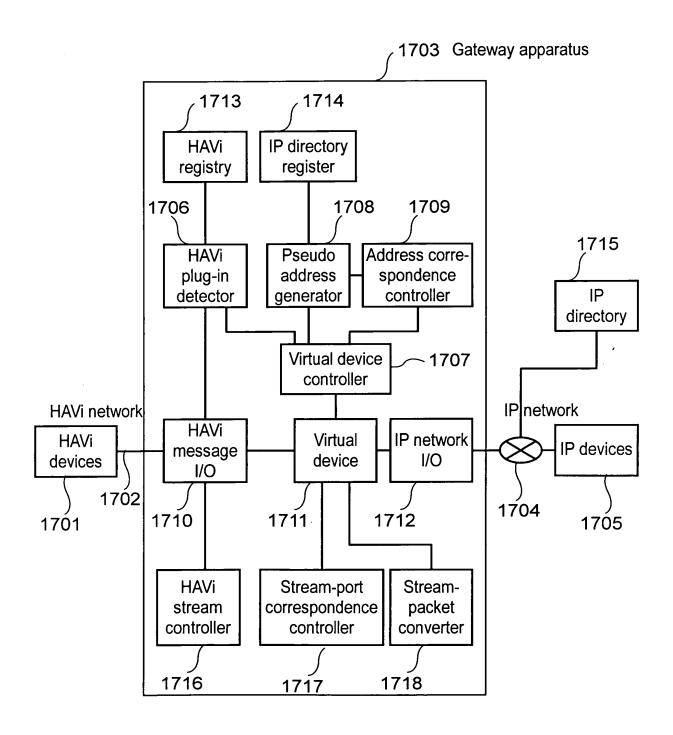


FIG. 18

Sequence diagram (Establish)

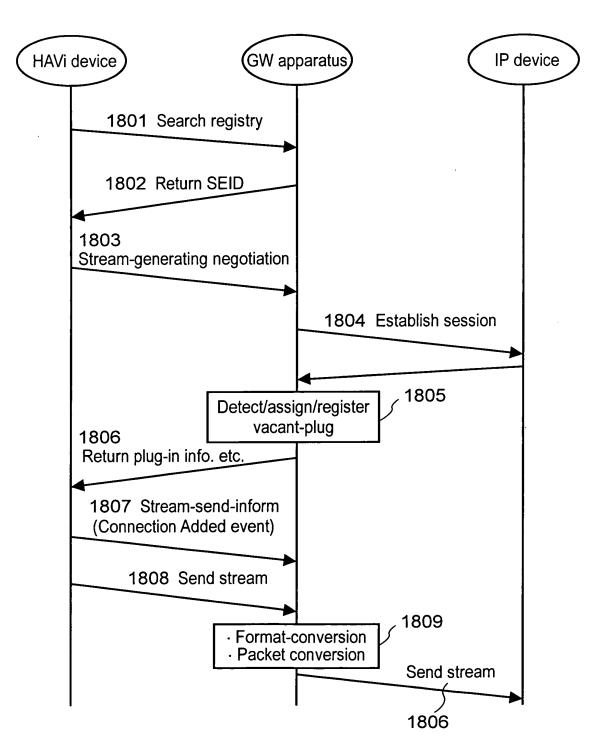


FIG. 19

Sequence diagram (disconect)

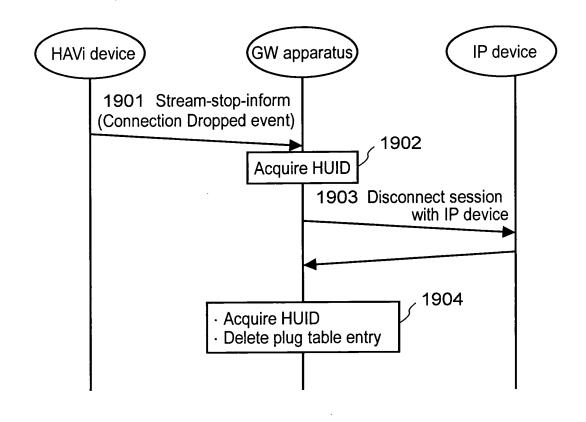


FIG. 20

2001 (2002	(2003	,2004	2005
FCM HUID FCM Plu	g No, PCR No,	IP Port N	0,
10-6 0 10-7 1	0.1 2	8082 8083	

FIG. 21

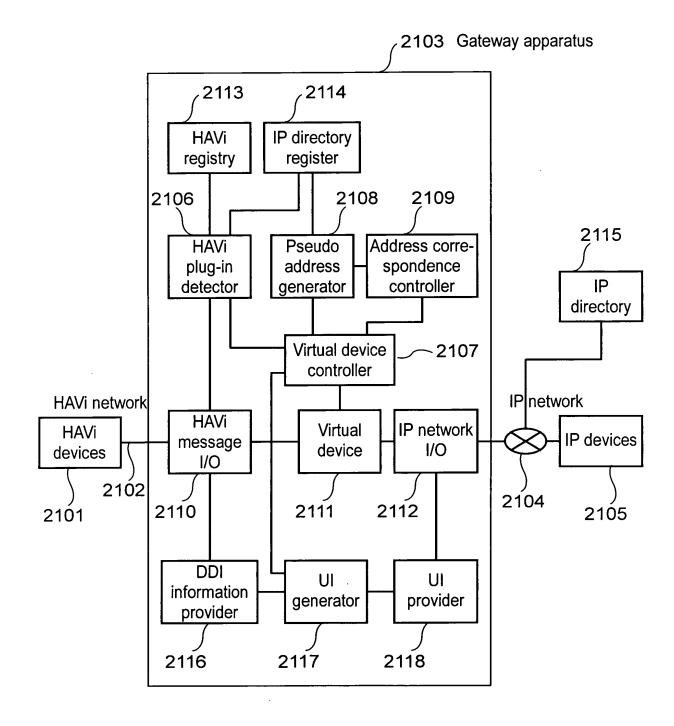


FIG. 22

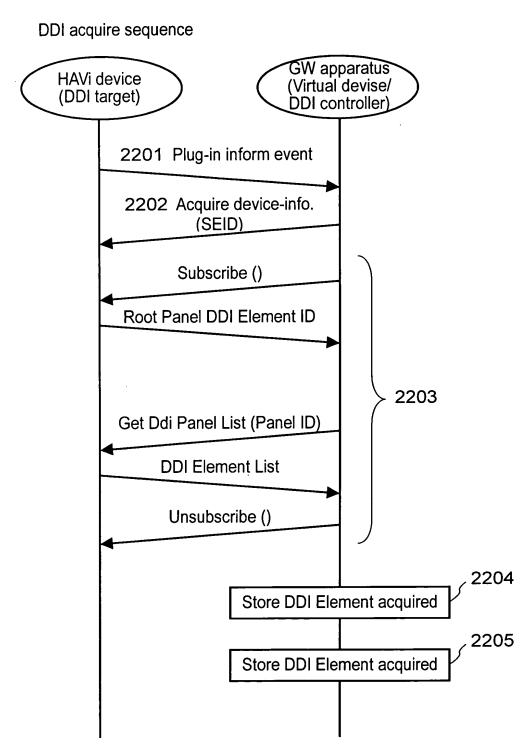


FIG. 23

GUID-operation-from-IP sequence

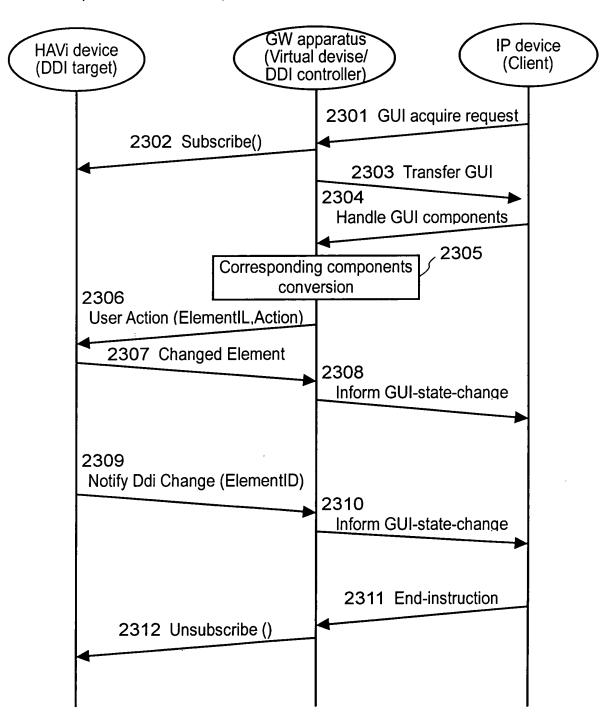


FIG. 24

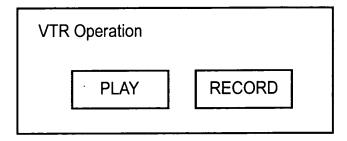


FIG. 25

HUID XXXX

Element Type	Label	Element ID
DDi Panel	VTR operation	0
DDi Button	PLAY	1
DDi Button	RECORD	2

FIG. 26

```
If(Event==Play_Pressed) then{
   CallDDi(1,Pressed);
}
elseif(Event==Record_Pressed)then{
   CallDDi(2,Pressed);
}
```

FIG. 27

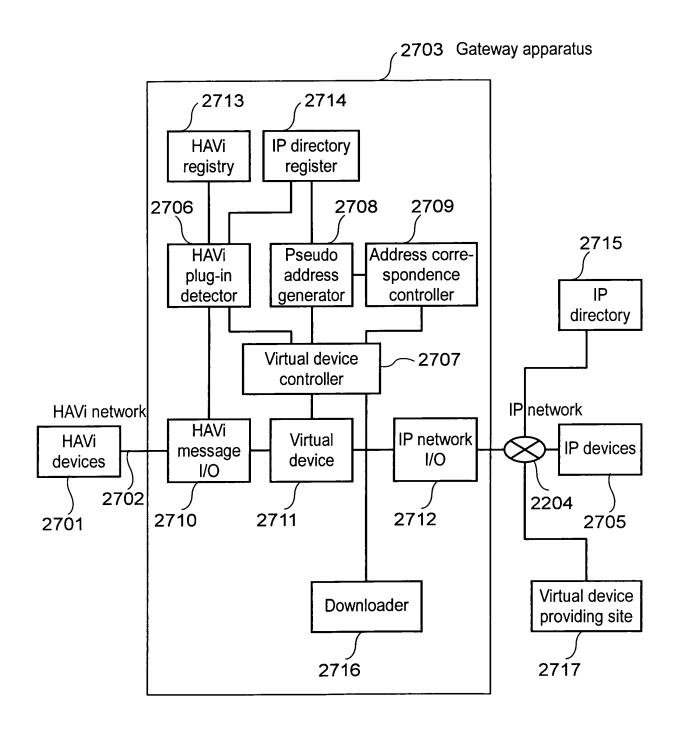


FIG. 28

Manufacturer	Device No,	URL	•	Current Version
xxxxxx	1234AZ1	http://www.[].[]/1234AZ1/vdevise.exe	1.02

FIG. 29

